



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

3738/11

Inventors: Pope et al.
Title: Diamond-Surfaced Femoral Head for Use in A Prosthetic Joint
Filed: January 30, 2000
Serial No.: 09/494,240
Docket: 6056 P
Examiner: Pellegrino, Brian E.
GAU: 3738

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TECHNOLOGY CENTER R3700

Assistant Commissioner for Patents
Washington, DC

Certificate of Mailing

Honorable Assistant Commissioner:

I hereby certify that the attached Response to Office Action is being submitted via first class mail with the United States Postal Service in an envelope with sufficient postage addressed to "Assistant Commissioner for Patents, Washington, DC 20231" on June 24, 2002.

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Assistant Commissioner for Patents
Washington, DC 20231

Response to Office Action

Honorable Assistant Commissioner:

This paper is intended to be fully responsive to the office action mailed on April 4, 2002.

Amendment

Please cancel claims 1-79 without prejudice.

Please add the following new claims:

80. A femoral head comprising:

a sintered polycrystalline diamond compact,

a substrate located on said polycrystalline diamond compact,

solvent-catalyst metal located in said substrate,

a diamond table sintered to said substrate,

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a gradient transition zone between said substrate and said diamond table in said polycrystalline diamond compact, said gradient transition zone having a substrate side and a diamond table side, said gradient transition zone having both solvent-catalyst metal and diamond therein, and said gradient transition zone exhibiting a transition of ratios of percentage content of solvent-catalyst metal to diamond from one side of said gradient transition zone to another such that at a first point in said gradient transition